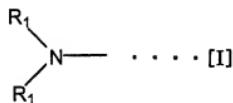


AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

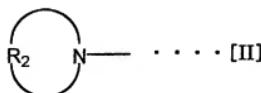
LISTING OF CLAIMS:

1. (currently amended): A rubber composition using a modified conjugated diene polymer, characterized by comprising (A) 100 parts by mass of a rubber component containing not less than 10% by mass of a conjugated diene polymer having a polymer chain with at least one functional group selected from the group consisting of a substituted amino group represented by the following formula (I):



{wherein R₁ is independently an alkyl, cycloalkyl or aralkyl group having a carbon number of 1-12},

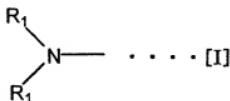
and a cyclic amino group represented by the following formula (II):



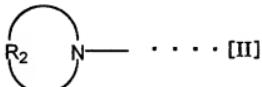
{wherein R₂ is an alkylene group having 3-16 methylene groups, a substituted alkylene group or an oxy- or N-alkylamino-alkylene group},

wherein the conjugated diene polymer is formed by forming a solution of one or more anion-polymerizable monomers consisting essentially of 1,3-butadiene in a hydrocarbon solvent,

and then polymerizing the monomers with (D) a lithioamine represented by a general formula of (AM)Li(Q)_y, wherein y is 0 or 0.5 to 3, and Q is a soluble component selected from the group consisting of a hydrocarbon, an ether, an amine and a mixture thereof, and AM is the formula (I):



wherein R₁ is the same as mentioned above,
or the formula (II):



wherein R₂ is the same as mentioned above;
or a mixture of the item (D) and (E) an organic alkali metal compound selected from compounds represented by general formulae of R₄M, R₅OM, R₆C(O)OM, R₇R₈NM and R₉SO₃M, wherein each of R₄, R₅, R₆, R₇, R₈ and R₉ is selected from the group consisting of alkyl, cycloalkyl, alkenyl and aryl groups having a carbon number of about 1 to about 12 and phenyl group and M is selected from the group consisting of Na, K, Rb and Cs, as a polymerization initiator in the presence of at least one selected from the group consisting of a hydrocarbon, an ether, an amine and a chelating agent;

- (B) not less than 20 parts by mass of carbon black; and
- (C) not more than 1.0 part by mass of a polycyclic aromatic compound (PCA).

2. (original): A rubber composition according to claim 1, wherein the conjugated diene polymer is a copolymer of butadiene and an aromatic vinyl compound or a homopolymer of butadiene.

3. (original): A rubber composition according to claim 2, wherein a vinyl bond content in butadiene portion is not more than 25%.

4. (previously presented): A rubber composition according to claim 2, wherein a content of the aromatic vinyl compound as a copolymer component is not more than 10% by mass.

5. (previously presented): A rubber composition according to claim 2, wherein the aromatic vinyl compound as a copolymer component is styrene.

6. (previously presented): A rubber composition according to claim 2, wherein the conjugated diene polymer is polybutadiene.

7. (previously presented): A rubber composition according to claim 1, wherein the conjugated diene polymer has a glass transition temperature (Tg) of not higher than -50°C.

8. (previously presented): A rubber composition according to claim 1, wherein R₁ in the formula (I) is methyl group, ethyl group, butyl group, octyl group, cyclohexyl group, 3-phenyl-1-propyl group or isobutyl group.

9. (previously presented): A rubber composition according to claim 1, wherein R₂ in the formula (II) is tetramethylene group, hexamethylene group, oxydiethylene group, N-alkylazadiethylene group, dodecamethylene group or hexadecamethylene group.

10. (canceled).

11. (currently amended): A rubber composition according to claim 1, wherein the conjugated diene polymer has at least one tin-carbon bond or silicon-carbon bond derived from a coupling agent of a formula: (R₃)_aZX_b (wherein Z is tin or silicon, and R₃ is selected from the group consisting of an alkyl group having a carbon number of 1-20, a cycloalkyl group having a carbon number of 3-20, an aryl group having a carbon number of 6-20 and an aralkyl group having a carbon number of 7-20, and a is 0 to 3, b is 1 to 4 and a+b = 4).

12. (previously presented): A rubber composition according to claim 1, wherein not less than 20% by mass of natural rubber and/or polyisoprene rubber is included in 100 parts by mass of the rubber component containing the conjugated diene polymer.

13. (previously presented): A rubber composition according to claim 1, wherein carbon black as the component (B) has a nitrogen adsorption specific surface area (N₂SA) of not less than 70 m²/g.

14. (previously presented): A rubber composition according to claim 1, wherein PCA as the component (C) is derived from a softening agent.

15. (previously presented): A rubber composition according to claim 1, wherein an extractable of the rubber composition after vulcanization with acetone-chloroform is not more than 20% by mass per the mass of the rubber composition after vulcanization.

16. (previously presented): A tire characterized by using a rubber composition as claimed in claim 1.

17. (original): A tire according to claim 16, wherein the rubber composition is applied to a tread.

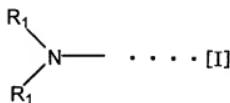
18. (previously presented): A tire according to claim 16, wherein the tire is a heavy duty tire.

19. (currently amended): A rubber composition according to claim 110, wherein a chelating agent is added to the mixture of the items (D) and (E) during the production of the modified conjugated diene polymer.

20. (new): A rubber composition according to claim 19, wherein the chelating agent is selected from the group consisting of tetramethylene ethylene diamine (TMEDA), oxolanyl cyclic acetals and cyclic oligomer-like oxolanyl alkanes.

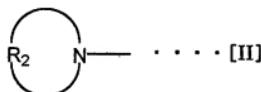
21. (new): A rubber composition using a modified conjugated diene polymer, characterized by comprising:

(A) 100 parts by mass of a rubber component containing not less than 10% by mass of a conjugated diene polymer having a polymer chain with at least one functional group selected from the group consisting of a substituted amino group represented by the following formula (I):



wherein R₁ is independently an alkyl, cycloalkyl or aralkyl group having a carbon number of 1-12,

and a cyclic amino group represented by the following formula (II):



wherein R₂ is an alkylene group having 3-16 methylene groups, a substituted alkylene group or an oxy- or N-alkylamino-alkylene group,

wherein the conjugated diene polymer has a vinyl bond content of not less than 14%;

(B) not less than 20 parts by mass of carbon black; and

(C) not more than 1.0 part by mass of a polycyclic aromatic compound (PCA).

22. (new): A rubber composition according to claim 21, wherein the conjugated diene polymer is a copolymer of butadiene and an aromatic vinyl compound or a homopolymer of butadiene.

23. (new): A rubber composition according to claim 22, wherein a vinyl bond content in butadiene portion is not more than 25%.

24. (new): A rubber composition according to claim 22, wherein a content of the aromatic vinyl compound as a copolymer component is not more than 10% by mass.

25. (new): A rubber composition according to claim 22, wherein the aromatic vinyl compound as a copolymer component is styrene.

26. (new): A rubber composition according to claim 22, wherein the conjugated diene polymer is polybutadiene.

27. (new): A rubber composition according to claim 21, wherein the conjugated diene polymer has a glass transition temperature (Tg) of not higher than -50°C.

28. (new): A rubber composition according to claim 21, wherein R₁ in the formula (I) is methyl group, ethyl group, butyl group, octyl group, cyclohexyl group, 3-phenyl-1-propyl group or isobutyl group.

29. (new): A rubber composition according to claim 21, wherein R₂ in the formula (II) is tetramethylene group, hexamethylene group, oxydiethylene group, N-alkylazadiethylene group, dodecamethylene group or hexadecamethylene group.

30. (new): A rubber composition according to claim 21, wherein the conjugated diene polymer has at least one tin-carbon bond or silicon-carbon bond derived from a coupling agent of a formula: (R₃)_aZX_b, wherein Z is tin or silicon, and R₃ is selected from the group consisting of an alkyl group having a carbon number of 1-20, a cycloalkyl group having a carbon number of 3-20, an aryl group having a carbon number of 6-20 and an aralkyl group having a carbon number of 7-20, and a is 0 to 3, b is 1 to 4 and a+b = 4.

31. (new): A rubber composition according to claim 21, wherein not less than 20% by mass of natural rubber and/or polyisoprene rubber is included in 100 parts by mass of the rubber component containing the conjugated diene polymer.

32. (new): A rubber composition according to claim 21, wherein carbon black as the component (B) has a nitrogen adsorption specific surface area (N₂SA) of not less than 70 m²/g.

33. (new): A rubber composition according to claim 21, wherein PCA as the component (C) is derived from a softening agent.

34. (new): A rubber composition according to claim 21, wherein an extractable of the rubber composition after vulcanization with acetone-chloroform is not more than 20% by mass per the mass of the rubber composition after vulcanization.

35. (new): A tire characterized by using a rubber composition as claimed in claim 21.

36. (new): A tire according to claim 35, wherein the rubber composition is applied to a tread.

37. (new): A tire according to claim 35, wherein the tire is a heavy duty tire.